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INDEXACIÓN | INDEXING | INDEXAÇÃO

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Is it possible to upgrade in global value chains? A comparison between industrial policy in Mexico and the Asian experience

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¿Es posible escalar en las cadenas globales de valor? Una comparación entre la política industrial en México y la experiencia asiática

É possível escalar nas cadeias globais de valor? Uma comparação entre a política industrial no México e a experiência asiática

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This article analyzes the industrial policy implemented in Mexico as a result of the trade liberalization, highlighting its role in the configuration of an industrial specialization pattern that revolved around in-bond assembly activities and whose main feature was manufactured goods with low value added and little local technological knowledge. By contrast, a synthesis of public measures which brought about the upgrading of manufacturing activities in Taiwan gives rise to a debate about the relevance of the State as a promoter of productive development and questions the possibilities of developing countries to move up within international manufacturing linkages.

La Unión Europea acaba de lanzar una iniciativa para fomentar Participaciones Público Privadas (PPPs) mediante bonos de proyecto más atractivos a inversores institucionales para promover proyectos transeuropeos. Esto se logra a través de mecanismos de mejora crediticia como garantías de liquidez o tramos de deuda subordinada facilitados por el Banco Europeo de Inversiones. Esta iniciativa pretende evitar los problemas de liquidez experimentados actualmente por bancos comerciales en Europa para financiar megaproyectos. En este artículo exploramos las ventajas e inconvenientes de esta iniciativa para promover redes de infraestructuras transnacionales en Europa, y analizamos su aplicabilidad a otras áreas como Latino-América.

Este artigo analisa a política industrial implementada no México após a abertura comercial, destacando o seu papel na construção de um padrão de especialização industrial centrado em actividades de montagem e caracterizado pelo reduzido conteúdo do valor acrescentado e conhecimentos tecnológicos domésticos integrados nos bens fabricados. Em contrapartida, uma síntese das medidas públicas que permitiram a escalada das actividades industriais em Taiwan, conduz a um debate sobre a relevância do Estado como agente promotor do desenvolvimento produtivo, assim como ao questionamento da viabilidade da escalada em ordenamentos internacionais de produção por parte do conjunto das indústrias dos países menos desenvolvidos.

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1. Introduction

Two developments stand out with respect to the trend in the international economy over the last thirty years. Firstly, the creation of global manufacturing chains following the widespread implementation by transnational corporations (TNCs) of the production segmentation principle. Secondly, we underlie the theoretical predominance of the so-called "neoliberal" theoretical model that arose from the Washington Consensus whose purpose was to open and deregulate markets.

Although these two developments sometimes appear unrelated, measures taken by the authorities of "newly" industrialized countries on the "advice" of main international economic organizations have undoubtedly had a profound structural impact on their manufacturing base. In Mexico, one of the main consequences of this structural change was the emergence of a specialization pattern based on inbond assembly —underpinned by an abundance of labor and the country's proximity to the United States— to the detriment of knowledge-intensive industries.

It is important then to analyze the characteristics of industrial policy implemented within the framework of "neoliberalism" from the standpoint of the opportunities for Mexico if autonomous, to sustain long-term development. Under very different conditions, successful industrialization experiences in other regions are the result of a theoretical paradigm that favors a dynamic view of competitive advantages and assigns the role of guide to the State.

Accordingly, a series of authors essentially grouped around Economic Commission for Latin America and the Caribbean (ECLAC) publications, have studied the structural change of Latin American economies, placing special emphasis on the knowledge content of the goods produced. The ECLAC's "official" version argues for the need to implement, within the national States, any measure deemed necessary to "upgrade" within the international manufacturing linkages in order to position themselves in the most profitable segments of the chains (CEPAL, 2008).

The purpose of this article, then, is to present some general elements of analysis in order to discuss this proposal and work on a response to several questions that arise from it: Is it possible for emerging countries to move up within international value chains in the current global economic environment? Is a complete break with the prevailing theoretical paradigm necessary? If so, what guidelines should be included in an alternative industrial development policy for countries such as Mexico?

After outlining the main guidelines of the industrial policy implemented in Mexico after the 1990s and its consequences for the manufacturing sector, the second part of this article looks at a relative success story: industrial development measures adopted by Taiwan. The third part makes a critical appraisal of the feasibility of "upgrading" within international value chains for emerging economies overall. Finally, the conclusion attempts to respond to questions raised at the beginning, and mentions some general aspects that an alternative public policy might consider.

Key words
Upgrading, Industrial policy, Mexico, Technological capacities, Value chains, Taiwan

Palabras clave
Escalamiento, política industrial, México, capacidades tecnológicas, cadenas de valor, Taiwán

Palavras-chave
Escalada, política industrial, México, capacidades tecnológicas, cadeias de valor, Taiwan

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2. Analysis and results of Mexican industrial policy

In Mexico, during the 1980s, the planning of structural change and its expected results was, from the outset, evident in official documents. An example is the 1989-1994 National Development Plan, which makes the following diagnosis: "The policy of overprotecting the country's producers from foreign competition has resulted in an inefficient distribution of domestic resources ... and has favored income concentration by encouraging less labor-intensive activities." It then goes on to state the following priority: "...exploit the country's geographical advantages by promoting the efficient integration of the export industry, in particular, inbond assembly plants" (Presidencia de la República, 1988, pp. 84-85).

Based on these guidelines, the industrial policy of the second half of the 1980s and 1990s was essentially horizontal in nature (measures directed at all sectors) and its main purpose was to develop the export inbond industry and to make its global insertion easier. In 1994, the Industrial Policy and Economic Deregulation Program and the Foreign Trade and Export Promotion Program, which were part of the 1994-2000 National Development Plan, were merged into the Foreign Trade and Industrial Policy Program.

Based on the premise that trade liberalization and economic globalization implied that development policies could not be designed independently of measures aimed at boosting foreign trade, the authorities began to eliminate in practice sectorial development instruments (in many cases vertical industry-specific programs disappeared). In sum, support for companies not linked to international trade was left out of the new development strategy.

In the Foreign Trade and Industrial Policy Program published by the Ministry of Trade and Industrial Development (SECOFI) in 1996, the first strategy that was to be implemented through eight fields of action was: "Create very profitable and permanent conditions for direct and indirect exports, and broaden and strengthen the access of domestic products to export markets." (SECOFI, 1996, p. 568).

Another example of these guidelines was the implementation of development programs based on two main lines of action: boost exports (Ecex[1] and Altex[2]) and develop inbond assembly activities (Pitex[3], Immex[4] and Drawback[5]). In the case of the foreign-trade company concept (Ecex), created in 1990 to encourage exports of domestic products through financial support and prerogatives associated with export formalities, the logic of how it worked meant that, contrary to their objective, a small group of large companies turned out to be the main beneficiaries.

With respect to the Pitex, Immex and Drawback programs, it is worth pointing out the provisions related to tax payment exemptions (general import duties, value added tax and compensatory duties) on temporary exports of goods and inputs employed in the process of manufacturing, transforming or repairing export merchandise. Surprisingly, these programs' requirements often precluded the participation of small companies. For example, in order to request the temporary import of raw materials, parts, packaging and fuels, Pitex originally established a minimum

[1] Foreign trade companies (Ecex).
[2] Highly exporting companies (Altex).
[3] Temporary import Program for the production of articles for export (Pitex).
[4] Manufacturing, inbond and export services industries (Immex).
[5] Import drawback for exporters (Drawback).

export requirement of USD 500,000, or 10% of the corresponding products' sales of the company) (Hernández, 2000, p. 317).

As of November 1, 2006, and in line with guidelines established in the 1980s, the Ministry of the Economy published the Decree for Developing the Manufacturing, Inbond and Export Services Industry (IMMEX Decree) as part of the trade facilitation policy for strengthening the competitiveness of the Mexican export sector. The Decree included, in a single legal instrument, programs such as Development and Operation of the Export Inbond Industry (Maquila) and the Temporary Import Programs for Producing Export Items (PITEX). Around 5,108 IMMEX establishments (INEGI, 2011a) currently export 64.8% of total manufactured goods, and their imports account for 84.9% of their sales abroad (CNIMME, 2011).

As such, the industrial specialization pattern resulting from the aforementioned measures encouraged the inclusion of the local productive industry in sectors of high capital content but controlled by large transnational corporations with global organizational strategies. As there was no room for them in these linkages, domestic activities traditionally related to technological progress, among others, were progressively pushed out of the market, victims of trade liberalization and the related public policy (Villagómez, 2003, pp. 35-36).

The car manufacturing industry, which had a strategic place in the new growth model, was subject to a special legal framework governed by the Automotive Decree. In 2004, the legislation eliminated the minimum domestic content requirement for manufactured goods that until 1998 had been 60%, and gradually, the trade balance requirement (Hernández, 2000, pp. 310-311). The reshuffling of the country's manufacturing production as a function of global production needs therefore occurred through the greater specialization of exporters in end segments of the value chain and through the displacement of local production by imports.

The government's introduction of competitive sectorial programs as of 1990 and support schemes for the integration of production chains since 1996 were mere palliatives for these trends, had partial scope and were short of funds. In their analysis of the competitiveness of the Mexican economy from a presumably systemic viewpoint, Villarreal and Ramos (2001, p. 777) note the "passive" nature of the sectorial policy in this decade and cite the well-known phrase: "the best industrial policy is having no industrial policy".

It should also be pointed out that the idea of "upscaling" within these global linkages has been absent from the productive specialization strategy, or has been limited to implied references in general policy guidelines with no concrete implementation measures. To illustrate this, the program for the development of the software industry gives it, at least on paper, the role of a link between an assembly-based economy and a knowledge-based economy. However, the document does not outline, as might be expected, a complementary analysis of the requirements that such a structural change would imply (Secretaría de Economía, 2002).

In sum, the industrial policy that has been implemented for more than two decades, characterized by the absence of measures favoring activities aimed at the domestic market or the creation of local supplier networks for the export platform, has resulted in the sector becoming subordinated to the organization and working of international manufacturing linkages. The bias of the measures enforced has systematically placed non-exporting companies at a clear disadvantage,

which has caused both the concentration of the current productive structure in a small number of sectors and the cancellation of industrial specialization alternatives.

Proof for this can be found in the fact that, in 2008, of the 200 activities identified in the Monthly Industrial Survey (EIM) carried out by the *Instituto Nacional de Estadística y Geografía* (INEGI)[6], five industrial activities accounted for 32% of the total manufacturing output vs. 24.3% in 1994. In terms of sectors, five of the 60 accounted for 46.2% of all manufacturing output vs. the 1994 mark of 38.3%[7]. More importantly from 1994 to 2008, as a group, 190 of the 200 classes identified did not enjoy productivity growth, a striking stall out of 95% in this key indicator. Furthermore, a shift-share analysis reveals that the contribution of structural change, understood as the shift of labor from low-productivity activities to high-productivity activities, was residual during the period (6.2% of the increase)[8].

Despite strong growth in manufacturing exports of 363.2% between 1994 and 2008[9], the stagnation and, indeed, regression in productivity in most activities, coupled with the widening technology gap and the inherent disarticulation of local value chains have set the sector's deteriorating structural situation in high relief. Irrefutable evidence can be found in the sector's external deficit of USD 235.3 billion racked up between 1994 and 2008[10]. At the bottom of this failed policy we also find the feeble degree of manufacturing diversity reflected in the excessive specialization of exports, both in terms of product and markets. In 2008, the sum of automobile products, electric devices and electronics accounted for 54.4% of Mexican manufacturing exports[11], fully 83.1% of which went to the United States[12].

3. Features of successful industrial policy in Asia

In contrast, there are successful examples of "upscaling" within global manufacturing linkages by Asian countries such as China, South Korea and Taiwan, among others. While very different to Mexico in historical, cultural and material terms, State intervention and the implementation of a public sectorial policy which paved the way for industries positioned in areas considered future opportunities, were fundamental. Underpinned by economic nationalism, the State devised production alternatives which were different to the ones used by transnational corporations and which enabled producers to move up within value chains in terms of the implied knowledge content of their activities, as reflected in the development of the hi-tech sector.

[6] Mexican Bureau of Statistics and Geography.
[7] Author's estimation based on INEGI (2011b). Encuesta Industrial Mensual (EIM), as per the Mexican Classification of Products and Activities (CMAP).
[8] These results were obtained after building a database that estimates at a constant price from December 2003 as per EIM the monthly values of labor productivity for each country for the period 1994-2008 for 200 activity classes of Mexican manufacturing. The productivity figure results from the per man-hour production value. After applying a Fabricant decomposition analysis —a structural-differential statistical technique (CEPAL, 2007)—, increases in productivity are broken down into two effects: one intrinsic and associated to technological change and the other structural and attendant to displacement of the labor factor.
[9] Growth rate in dollars calculated as per INEGI (2011c), Banco de Información Económica (BIE), sector externo.
[10] Calculated as per INEGI (2011c). Banco de Información Económica (BIE), sector externo.
[11] Calculated as per INEGI (2011c), Banco de Información Económica (BIE), sector externo.
[12] Share of Mexican exports to the U.S. for product codes 85+87-8712-8713-8714-8715+871411+871419 of the Harmonized Commodity Description and Coding System 1992 (HS92). Calculated as per UN (2011), Comtrade database.

In order to generate these new market segments, and create better paid jobs and competitive domestic companies, although with some national specificities, governments of India, South Korea, Taiwan or China set up state-owned Research and Development laboratories (R&D) while also invested in higher education. Official measures focused on strengthening the network of suppliers to "leading" company through the substitution of imported inputs (parts and components), the advance of science and technology, and regional development. As Amsden (2001) states, in the beginning of this process, agrarian reform enabled resources allocated to agriculture to be invested in new industries that manufactured intermediate goods and made supporting them less costly.

In Taiwan, the State sought to eliminate technological bottlenecks in order to make domestic industries internationally competitive. Measures taken to do this included, among others, the implementation of scientific and technological research subsidies as well as tax exemptions, and the creation of favorable financial conditions for companies that set up business in technology parks (Amsden, 2004, pp. 77-81). It also founded the Industrial Technology Research Institute (ITRI), which is given over to hi-tech products with the aim of transferring technical knowledge to local companies, particularly suppliers comprising the manufacturing chain of a leading local company.

In this regard, Lin (2003, p. 25) says that following the 1973-1975 oil crisis, the government recognized the fragility of an economic model based on traditional labor-intensive industries that are very vulnerable to fluctuations in global markets. The author lists key measures established by the authorities since then: the launch of the Strategic Industrial Development Program during the 1980s, which continued through 1991 under the name Statue for Upgrading Industry (SUI); the creation of ITRI in 1973; and, in 1979, investments in industrial R&D through the Science and Technology Projects Program (STP) and the creation of the Hsinchu Science Based Industrial Park (SIPA).

Under the Strategic Program for Industrial Development, the State financed the installation of the machinery required to manufacture goods considered to be strategic to development; at the end of 1987, the list, which was the result of a collegiate decision by civil authorities, academics and businessmen, consisted of 214 products. Spending on R&D increased from 0.83% of the Gross Domestic Product (GDP) in 1979 to 2.02% by 2000. Of the latter, 62.7% was funded by the business sector, while 37.3% came from research institutes, universities and schools. It is also interesting to note that 57.6% of the investment was allocated to technological development, 32% to applied research and only 10.4% to basic research, with 37% of the total financing coming from the public purse, whereas in 1981 it amounted to 53% (Lin, 2003, p. 28).

STP's main purpose was to address the issue of developed countries refusing to transfer cutting-edge technology to local companies, and it did so through the development of local innovations that government institutes, in particular the ITRI, were initially responsible for. Projects were selected based on industrial needs and the capacity of local companies to use new technologies in order to later transfer the results to the private sector.

In a second phase, the State encouraged companies' participation in R&D activities, and especially after 1986, electronic and information technology projects were a priority and received 36% of the assigned funds. More recently, both academics and companies can compete for

the Program's funds and even obtain the property rights to the products produced (Hsu and Chiang, 2001, p. 26).

Finally, the Hsinchu industrial park played a key role in providing an adequate environment and infrastructure for innovations to mature. Strategically located near to ITRI and the main universities, SIPA is the technological cluster which enables the systemic integration of the whole. In 2001, the park had 312 companies, 293 of which belonged to the electronics sector and had around 100,000 employees. The companies located there have been carefully selected using clearly established criteria with a special emphasis on their ability to create new products.

In 2001, SIPA was responsible for the placement of around half of Taiwan's current patents in the US, and sales amounted to USD 19 billion, 5.4% of which were reinvested in R&D (Lin, 2003, p. 35). It is worth pointing out the role played by the universities and ITRI in preparing qualified technicians for SIPA, and, as of the 1990s, the repatriation by park companies of experts who have contributed fundamental knowledge to new developments and have guided the efforts of local engineers in their R&D activities.

In sum, the Asian experience highlights the possibility of successfully developing —albeit partially— a relatively autonomous "upgrading" within global value chains. The importance of a comprehensive strategy to support "opportunity" industries stands out from this study, along with the predominant guidance of the State, as the main player, in forming knowledge networks and building local linkages for supplying leading domestic companies with inputs. Likewise, the objective of the Taiwanese authorities in moving from an economy of productive specialization towards a knowledge-intensive economy was clear from the outset.

4. Viability of upgrading within global value chains

Based on the current situation of Latin American countries, which we could define as structural economic lag and "technological dependence", several authors grouped around ECLAC lines of research have reflected on the possibilities of an "upgrading" within the integrated global manufacturing systems by industries in the region. Several analyses concur about the importance of achieving a positioning that permits the production of goods with higher value added so as to obtain some market power through the development of technological capacities (Kosacoff, et al., 2007).

With respect to this, there are obvious factors that pose obstacles to such upgrading. Firstly, the chains are dominated by parent companies that are reluctant to transfer integral knowledge of the manufacturing process to their subsidiaries (Morrison, et al., 2006). In fact, the so-called "governance" of these international systems is the only thing that can decide where certain tasks related to the productive process can take place. In linkages of a "captive" nature in particular, characterized by suppliers with low capacity levels and very complex manufacturing specifications, these parent companies concentrate the main R&D activities at their main location and control access to markets (Gereffi, et al., 2005).

While this concentration follows business criteria and large corporations are from some angles supposed to be "multinational", the reality is that a few developed countries have been centralizing hi-tech tasks due to the prevailing forms of international organization. As an example, according to an exercise performed by Cimoli et al. (2005), knowledge-dissemination intensive sectors in the US accounted for 60.2% of industrial output in 2000 compared to only 28.3% in Latin America.

While Mexico and Brazil recorded the highest levels of participation by such sectors in industrial output (34.7 and 31.4% respectively), these values were below 15% in all the other countries in the region. Despite the Mexican model's emphasis on integrating manufacturing into global manufacturing chains with a high capital content, the percentage of production from companies considered knowledge disseminators grew from 20.2% in 1970 to 34.7% in 2000, while in the US the same numbers were 40.1% and 60.2%, respectively (Cimoli et al., 2005).

Based on a dynamic standpoint, if we consider the demonstrated dependency of the innovations and knowledge generation in relation to previously established paths, i.e. the "path dependency" theory, the problem of the geographical concentration of technological assets becomes more marked. According to this theory, product improvements and inventions occur in certain places as that is where the existing capabilities are to be found (Farfán, 2005). Lall (2003) expounds the same idea with respect to agglomeration economies which concentrate technological learning.

We should point out that this geographical concentration is currently vital to the competitiveness of large corporations. Consequently, dissemination of knowledge is not usually in the economic interest of the conglomerates that benefit from the gap between countries' levels of economic development and knowledge. The very notion of productive segmentation stems from the possibility of exploiting global factor endowments. Thus, it is the quality of how industrial policy is applied, of the paradigm of the conventional theory of international trade based on the concept of these endowments that is most appropriate to the consolidation of such global forms of business organization.

A second consideration is related to the theoretical view that up until a few years ago prevailed globally and advocates no State intervention in the economy. As previously analyzed for Mexico, in parallel to privatization processes, public spending containment and economic deregulation, the government in many of these countries purposely abandoned sectorial development instruments in favor of inserting their local industry in these global linkages. The upshot is that Latin American countries, for example, still have not developed concrete mechanisms which enable positive economic and technology flows from export sectors to the rest of the local production base.

In some cases, structural reforms included in market deregulation and free trade programs have even resulted in a deindustrialization process. The balance in terms of the dismantling and loss of the State's autonomy as well as that of its institutions in the economic arena has therefore been reflected in the disappearance of many of the instruments that could currently permit industrial "upgrading".

In that vein, a national project of productive specialization based on an Asian-style vision of dynamic competitiveness necessarily implies the rebuilding of the State in many emerging countries like Mexico on autonomous bases. The reconstruction of the public economic apparatus requires, for example, a large amount of local financing not obtained at the expense of further depressing the domestic market. This "reconstruction" assumes, then, a radical change in the economic sphere.

In sum, a substantive "upgrading" of the Mexican productive sectors at the heart of these chains can only be achieved at the margin of both the application of the current theoretical perspective and the vertical orientation that is part of globally integrated systems. The design, development and exploitation of proprietary technological inventions require an economic, political and social infrastructure that is unnecessary for the type of low value-added activities which are part of the current specialization pattern and unlikely to come from a private sector that is linked to the global dynamic. It is also difficult to imagine that within a context of relatively few resources, the country could be simultaneously engaged in two different industrialization projects that are to some extent non-compatible.

Finally, the success of "upgrading" would imply substituting other nations' "functions" within the integrated system, in other words, displacing them. In effect, current international linkages have a clear pyramid structure whereby few countries act as leading producers of knowledge-intensive goods and increasingly more economies fulfill functions based on their primary productive factor endowments, such as labor or natural resources.

Given the recent acceleration of technological innovation and the growing trend towards a bigger concentration of supply in international markets, the number of "leader" countries is far from increasing and could actually decrease. In the long term, following the success of the "upgrading" strategy, the prevalence of this "new" position of stronger competitiveness — which would in turn bring about a higher level of development and the consequent increases in productivity, wages and purchasing power— would logically also require the creation of own value chains by the countries that achieve that goal.

5. Conclusions and alternative industrial policy proposals for Mexico

As of the 1990s, the implementation of the structural reform package inspired by a "neoliberal" vision transformed the characteristics of Mexico's productive sector. Industrial policy focused exclusively on boosting the inbond export sector, facilitating the dependent insertion of a few companies towards the end of international manufacturing chains through labor-intensive assembly activities.

The refinement and subsequent concentration of the productive apparatus into a few sectors and industrial groups, as well as the low levels of labor productivity and the percentage of domestic value added included in the goods produced, inherent to Mexican manufacturing, highlight the failings in terms of long-term autonomous and sustainable development of the

chosen specialization pattern. In this context, the proposal of "upgrading" within global value chains through the development of technological capabilities, as outlined by diverse authors, seems to be a partial solution to the problem. The pyramid structure of integrated systems, the control over them by the parent companies of transnational corporations, and the consequent geographical agglomeration of technological capacities in certain regions of the world, mean the proposed strategy is not very feasible.

While there are success stories, albeit under different historical and cultural conditions, it is clear that an essential prerequisite is, as in the case of Taiwan, the reconstruction of the State as the only agent capable of coordinating a national industrialization project of such scope. From an "upgrading" perspective, taking minimum advantage in terms of learning from the insertion in valuable global linkages implies taking multiple steps in different areas but essentially towards building local manufacturing chains that can underpin the export sector's competitiveness from a dynamic long-term standpoint.

Assimilating knowledge requires, among many other factors, qualified human resources, a legislation that encourages technology transfer, a stable macroeconomic environment and adequate infrastructure for its reproduction. As experience indicates, simultaneous progress made in so many diverse fields only appears achievable —if at all possible— as part of an integral development strategy coordinated by the State.

The depth of productive specialization could also be open to criticism in itself. In many cases, structural change towards the execution of tasks with a greater technological content to enable scaling within global value chains is accompanied by diversified supply. Multiple studies reveal that economic growth and a higher level of knowledge incorporated in goods exported by one country go hand in hand with greater productive structure diversification (Hausmann, 2007; Hwang, 2007; Klinger and Lederman, 2006).

Thus, diversification lowers countries' dependence on market fluctuations, making them less vulnerable to the cycles of a specific product, and consequently, to the global environment. Therefore, by being more flexible, a diversified economy has a greater capacity to extend the benefits of trade liberalization to all its productive sectors and can also respond more efficiently to shifts in the scenario. In contrast, in an excessive specialization pattern, which is very profitable in terms of the economies of scale generated, the nucleus of beneficiaries of the technological flows created is smaller.

An alternative development proposal that is inclusive of the diverse realities of emerging countries should therefore be based on a break with the current theoretical and practical paradigm. In the case of Mexico, a first step in this direction would be a decisive public policy which firstly stops and reverses the current trend of structural change. At the same time, the State's economic apparatus must be rebuilt so as to be able to subsequently establish a comprehensive strategy which is part of an effort to diversify the current productive pattern and whose main purpose would be the reconstruction of local manufacturing chains in the sidelines —at least initially— of the vertical and hierarchical functioning of global productive linkages.

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